Supplemental Mathematical Operators

Range: 2A00–2AFF

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The Unicode Standard, Version 9.0

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See http://www.unicode.org/charts/PDF/Unicode-9.0/ for charts showing only the characters added in Unicode 9.0.
See http://www.unicode.org/Public/9.0.0/charts/ for a complete archived file of character code charts for Unicode 9.0.

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See http://www.unicode.org/ucd/ and http://www.unicode.org/reports/

A thorough understanding of the information contained in these additional sources is required for a successful implementation.

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See http://www.unicode.org/pending/pending.html and http://www.unicode.org/alloc/Pipeline.html.

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	2A0	2A1	2A2	2A3	2A4	2A5	2A6	2A7	2A8	2A9	2AA	2AB	2AC	2AD	2AE	2AF
0	2A00	2A10	2A20	2A30	2A40	2A50	2A60	2A70	2A80	2A90	2AA0	2AB0	2AC0	2AD0	2AE0	2AF0
1	2A01	2A11	2A21	2A31	2A41	2A51	2A61	2A71	2A81	2A91	2AA1	2AB1	2AC1	2AD1	2AE1	2AF1
2	2A02	2A12	2A22	2A32	2A42	2A52	2A62	2A72	2A82	2A92	2AA2	2AB2	2AC2	2AD2	2AE2	2AF2
3	2A03	2A13	2A23	2A33	2A43	2A53	2A63	2A73	2A83	2A93	2AA3	2AB3	2AC3	2AD3	2AE3	2AF3
4	2A04	2A14	2A24	2A34	2A44	2A54	2A64	2A74	2A84	2A94	2AA4	2AB4	2AC4	2AD4	2AE4	2AF4
5	2A05	2A15	2A25	2A35	2A45	2A55	2A65	2A75	2A85	2A95	2AA5	2AB5	2AC5	2AD5	2AE5	2AF5
6	2A06	2A16	2A26	2A36	2A46	2A56	2A66	2A76	2A86	2A96	2AA6	2AB6	2AC6	2AD6	2AE6	2AF6
7	2A07	2A17	2A27	2A37	2A47	2A57	2A67	2A77	2A87	2A97	2AA7	2AB7	2AC7	2AD7	2AE7	2AF7
8	2A08	2A18	2A28	2A38	2A48	2A58	2A68	2A78	2A88	2A98	2AA8	2AB8	2AC8	2AD8	2AE8	2AF8
9	2A09	2A19	2A29	2A39	2A49	2A59	2A69	2A79	2A89	2A99	2AA9	2AB9	2AC9	2AD9	2AE9	2AF9
A	2A0A	2A1A	2A2A	2A3A	2A4A	2A5A	2A6A	2A7A	2A8A	2A9A	2AAA	2ABA	2ACA	2ADA	2AEA	2AFA
B	2A0B	2A1B	2A2B	2A3B	2A4B	2A5B	2A6B	2A7B	2A8B	2A9B	2AAB	2ABB	2ACB	2ADB	2AEB	2AFB
C	2A0C	2A1C	2A2C	2A3C	2A4C	2A5C	2A6C	2A7C	2A8C	2A9C	2AAC	2ABC	2ACC	2ADC	2AEC	2AFC
D	2A0D	2A1D	2A2D	2A3D	2A4D	2A5D	2A6D	2A7D	2A8D	2A9D	2AAD	2ABD	2ACD	2ADD	2AED	2AFD
E	2A0E	2A1E	2A2E	2A3E	2A4E	2A5E	2A6E	2A7E	2A8E	2A9E	2AAE	2ABE	2ACE	2ADE	2AEE	2AFE
F	2A0F	2A1F	2A2F	2A3F	2A4F	2A5F	2A6F	2A7F	2A8F	2A9F	2AAF	2ABF	2ACF	2ADF	2AEF	2AFF

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N-ary operators

2A00 ⨀ N-ARY CIRCLED DOT OPERATOR
→ 2299 ⊙ circled dot operator
→ 25C9 ◉ fisheye

2A01 ⨁ N-ARY CIRCLED PLUS OPERATOR
→ 2295 ⊕ circled plus

2A02 ⨂ N-ARY CIRCLED TIMES OPERATOR
→ 2297 ⊗ circled times
→ 2B59 ⨷ heavy circled saltire

2A03 ⨃ N-ARY UNION OPERATOR WITH DOT
→ 228D ⊍ multiset multiplication

2A04 ⨄ N-ARY UNION OPERATOR WITH PLUS
→ 228E ⊎ multiset union

2A05 ⨅ N-ARY SQUARE INTERSECTION OPERATOR
→ 2293 ⊓ square cap

2A06 ⨆ N-ARY SQUARE UNION OPERATOR
→ 2294 ⊔ square cup

2A07 ⩕ TWO LOGICAL AND OPERATOR
= merge
→ 2A55 ⩛ two intersecting logical and

2A08 ⩖ TWO LOGICAL OR OPERATOR
→ 2A56 ⩝ two intersecting logical or

2A09 ⨯ N-ARY TIMES OPERATOR
→ 00D7 × multiplication sign

Summations and integrals

2A0A ⨊ MODULO TWO SUM
→ 2211 ∑ n-ary summation

2A0B ⨋ SUMMATION WITH INTEGRAL

2A0C ⨌ QUADRUPLE INTEGRAL OPERATOR
→ 222D ∭ triple integral
≈ 222B ∫ 222B ∫ 222B ∫ 222B ∫

2A0D ⨍ FINITE PART INTEGRAL

2A0E ⨎ INTEGRAL WITH DOUBLE STROKE

2A0F ⨏ INTEGRAL AVERAGE WITH SLASH

2A10 ⨐ CIRCULATION FUNCTION

2A11 ⨑ ANTICLOCKWISE INTEGRATION

2A12 ⨒ LINE INTEGRATION WITH RECTANGULAR PATH AROUND POLE

2A13 ⨓ LINE INTEGRATION WITH SEMICIRCULAR PATH AROUND POLE

2A14 ⨔ LINE INTEGRATION NOT INCLUDING THE POLE

2A15 ⨕ INTEGRAL AROUND A POINT OPERATOR
→ 222E ∮ contour integral

2A16 ⨖ QUATERNION INTEGRAL OPERATOR

2A17 ⨗ INTEGRAL WITH LEFTWARDS ARROW WITH HOOK

2A18 ⨘ INTEGRAL WITH TIMES SIGN

2A19 ⨙ INTEGRAL WITH INTERSECTION

2A1A ⨚ INTEGRAL WITH UNION

2A1B ⨛ INTEGRAL WITH OVERBAR
= upper integral

2A1C ⨜ INTEGRAL WITH UNDERBAR
= lower integral

Miscellaneous large operators

2A1D ⨝ JOIN
= large bowtie
• relational database theory
→ 22C8 ⋈ bowtie
→ 27D7 ⟗ full outer join

2A1E ⨞ LARGE LEFT TRIANGLE OPERATOR
• relational database theory
→ 25C1 ◁ white left-pointing triangle

2A1F ⨟ Z NOTATION SCHEMA COMPOSITION
→ 2A3E ⨾ z notation relational composition

2A20 ⨠ Z NOTATION SCHEMA PIPING
→ 226B ≫ much greater-than

2A21 ⨡ Z NOTATION SCHEMA PROJECTION
→ 21BE ↾ upwards harpoon with barb rightwards

Plus and minus sign operators

2A22 ⨢ PLUS SIGN WITH SMALL CIRCLE ABOVE

2A23 ⨣ PLUS SIGN WITH CIRCUMFLEX ACCENT ABOVE

2A24 ⨤ PLUS SIGN WITH TILDE ABOVE
= positive difference or sum

2A25 ⨥ PLUS SIGN WITH DOT BELOW
→ 2214 ∔ dot plus

2A26 ⨦ PLUS SIGN WITH TILDE BELOW
= sum or positive difference

2A27 ⨧ PLUS SIGN WITH SUBSCRIPT TWO
= nim-addition

2A28 ⨨ PLUS SIGN WITH BLACK TRIANGLE

2A29 ⨩ MINUS SIGN WITH COMMA ABOVE

2A2A ⨪ MINUS SIGN WITH DOT BELOW
→ 2238 ∸ dot minus

2A2B ⨫ MINUS SIGN WITH FALLING DOTS

2A2C ⨬ MINUS SIGN WITH RISING DOTS

2A2D ⨭ PLUS SIGN IN LEFT HALF CIRCLE

2A2E ⨮ PLUS SIGN IN RIGHT HALF CIRCLE

Multiplication and division sign operators

2A2F ⨯ VECTOR OR CROSS PRODUCT
→ 00D7 × multiplication sign

2A30 ⨰ MULTIPLICATION SIGN WITH DOT ABOVE

2A31 ⨱ MULTIPLICATION SIGN WITH UNDERBAR

2A32 ⨲ SEMIDIRECT PRODUCT WITH BOTTOM CLOSED

2A33 ⨳ SMASH PRODUCT

2A34 ⨴ MULTIPLICATION SIGN IN LEFT HALF CIRCLE

2A35 ⨵ MULTIPLICATION SIGN IN RIGHT HALF CIRCLE

2A36 ⨶ CIRCLED MULTIPLICATION SIGN WITH CIRCUMFLEX ACCENT

2A37 ⨷ MULTIPLICATION SIGN IN DOUBLE CIRCLE

2A38 ⨸ CIRCLED DIVISION SIGN

Miscellaneous mathematical operators

2A39 ⨹ PLUS SIGN IN TRIANGLE

2A3A ⨺ MINUS SIGN IN TRIANGLE

2A3B ⨻ MULTIPLICATION SIGN IN TRIANGLE

2A3C ⨼ INTERIOR PRODUCT
→ 230B ⌋ right floor
~ 2A3C FE00 ⨼ tall variant with narrow foot

2A3D ⨽ RIGHTHAND INTERIOR PRODUCT
→ 230A ⌊ left floor
→ 2319 ⌙ turned not sign
~ 2A3D FE00 ⨽ tall variant with narrow foot

2A3E ⨾ Z NOTATION RELATIONAL COMPOSITION
→ 2A1F ⨟ z notation schema composition

2A3F ⨿ AMALGAMATION OR COPRODUCT
→ 2210 ∐ n-ary coproduct

Intersections and unions

2A40 ⩀ INTERSECTION WITH DOT
→ 2227 ∧ logical and
→ 27D1 ⟑ and with dot

2A41 ⩁ UNION WITH MINUS SIGN
= z notation bag subtraction
→ 228E ⊎ multiset union

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2A42 ⋃̄ UNION WITH OVERBAR
2A43 ⋂̄ INTERSECTION WITH OVERBAR
2A44 ⩞ INTERSECTION WITH LOGICAL AND
2A45 ⩟ UNION WITH LOGICAL OR
2A46 ⩠ UNION ABOVE INTERSECTION
2A47 ⩡ INTERSECTION ABOVE UNION
2A48 ⩢ UNION ABOVE BAR ABOVE INTERSECTION
2A49 ⩣ INTERSECTION ABOVE BAR ABOVE UNION
2A4A ⩤ UNION BESIDE AND JOINED WITH UNION
2A4B ⩥ INTERSECTION BESIDE AND JOINED WITH INTERSECTION
2A4C ⩏ CLOSED UNION WITH SERIFS
→ 222A ∪ union
2A4D ⩎ CLOSED INTERSECTION WITH SERIFS
→ 2229 ∩ intersection
2A4E ⩐ DOUBLE SQUARE INTERSECTION
2A4F ⩔ DOUBLE SQUARE UNION
2A50 ⩒ CLOSED UNION WITH SERIFS AND SMASH PRODUCT

Logical ands and ors

2A51 ⩓ LOGICAL AND WITH DOT ABOVE
2A52 ⩔ LOGICAL OR WITH DOT ABOVE
2A53 ⩕ DOUBLE LOGICAL AND
2A54 ⩖ DOUBLE LOGICAL OR
2A55 ⩗ TWO INTERSECTING LOGICAL AND
→ 2A07 ⩛ two logical and operator
2A56 ⩘ TWO INTERSECTING LOGICAL OR
→ 2A08 ⩚ two logical or operator
2A57 ⩙ SLOPING LARGE OR
2A58 ⩚ SLOPING LARGE AND
2A59 ⩛ LOGICAL OR OVERLAPPING LOGICAL AND
2A5A ⩜ LOGICAL AND WITH MIDDLE STEM
2A5B ⩝ LOGICAL OR WITH MIDDLE STEM
2A5C ⩞ LOGICAL AND WITH HORIZONTAL DASH
2A5D ⩟ LOGICAL OR WITH HORIZONTAL DASH
2A5E ⩠ LOGICAL AND WITH DOUBLE OVERBAR
→ 2306 ⌅ perspective
2A5F ⩡ LOGICAL AND WITH UNDERBAR
2A60 ⩢ LOGICAL AND WITH DOUBLE UNDERBAR
→ 2259 ≙ estimates
2A61 ⩣ SMALL VEE WITH UNDERBAR
→ 225A ≚ equiangular to
2A62 ⩤ LOGICAL OR WITH DOUBLE OVERBAR
2A63 ⩥ LOGICAL OR WITH DOUBLE UNDERBAR
→ 225A ≚ equiangular to

Miscellaneous mathematical operators

2A64 ⩦ Z NOTATION DOMAIN ANTIRESTRICTION
2A65 ⩧ Z NOTATION RANGE ANTIRESTRICTION
→ 2332 ⌲ conical taper

Relational operators

2A66 ⩨ EQUALS SIGN WITH DOT BELOW
→ 2250 ≐ approaches the limit
2A67 ⩩ IDENTICAL WITH DOT ABOVE
2A68 ⩪ TRIPLE HORIZONTAL BAR WITH DOUBLE VERTICAL STROKE
= identical and parallel to
→ 22D5 ⋕ equal and parallel to
→ 29E5 ⧥ identical to and slanted parallel
2A69 ⩫ TRIPLE HORIZONTAL BAR WITH TRIPLE VERTICAL STROKE
2A6A ⩬ TILDE OPERATOR WITH DOT ABOVE
2A6B ⩭ TILDE OPERATOR WITH RISING DOTS
→ 223B ∺ homothetic
2A6C ⩮ SIMILAR MINUS SIMILAR
2A6D ⩯ CONGRUENT WITH DOT ABOVE
→ 2245 ≅ approximately equal to
2A6E ⩰ EQUALS WITH ASTERISK
→ 225B ≛ star equals
2A6F ⩱ ALMOST EQUAL TO WITH CIRCUMFLEX ACCENT
2A70 ⩲ APPROXIMATELY EQUAL OR EQUAL TO
2A71 ⩳ EQUALS SIGN ABOVE PLUS SIGN
• black stands slightly better (chess notation)
2A72 ⩴ PLUS SIGN ABOVE EQUALS SIGN
• white stands slightly better (chess notation)
2A73 ⩵ EQUALS SIGN ABOVE TILDE OPERATOR
2A74 ⩶ DOUBLE COLON EQUAL
≈ 003A : 003A : 003D =
2A75 ⩷ TWO CONSECUTIVE EQUALS SIGNS
≈ 003D = 003D =
2A76 ⩸ THREE CONSECUTIVE EQUALS SIGNS
≈ 003D = 003D = 003D =
2A77 ⩹ EQUALS SIGN WITH TWO DOTS ABOVE AND TWO DOTS BELOW
2A78 ⩺ EQUIVALENT WITH FOUR DOTS ABOVE
2A79 ⩻ LESS-THAN WITH CIRCLE INSIDE
2A7A ⩼ GREATER-THAN WITH CIRCLE INSIDE
2A7B ⩽ LESS-THAN WITH QUESTION MARK ABOVE
2A7C ⩾ GREATER-THAN WITH QUESTION MARK ABOVE
2A7D ⩿ LESS-THAN OR SLANTED EQUAL TO
→ 2264 ≤ less-than or equal to
2A7E ⪀ GREATER-THAN OR SLANTED EQUAL TO
→ 2265 ≥ greater-than or equal to
2A7F ⪁ LESS-THAN OR SLANTED EQUAL TO WITH DOT INSIDE
2A80 ⪂ GREATER-THAN OR SLANTED EQUAL TO WITH DOT INSIDE
2A81 ⪃ LESS-THAN OR SLANTED EQUAL TO WITH DOT ABOVE
2A82 ⪄ GREATER-THAN OR SLANTED EQUAL TO WITH DOT ABOVE
2A83 ⪅ LESS-THAN OR SLANTED EQUAL TO WITH DOT ABOVE RIGHT
2A84 ⪆ GREATER-THAN OR SLANTED EQUAL TO WITH DOT ABOVE LEFT
2A85 ⪇ LESS-THAN OR APPROXIMATE
2A86 ⪈ GREATER-THAN OR APPROXIMATE
2A87 ⪉ LESS-THAN AND SINGLE-LINE NOT EQUAL TO
→ 2268 ≨ less-than but not equal to
2A88 ⪊ GREATER-THAN AND SINGLE-LINE NOT EQUAL TO
→ 2269 ≩ greater-than but not equal to
2A89 ⪋ LESS-THAN AND NOT APPROXIMATE
2A8A ⪌ GREATER-THAN AND NOT APPROXIMATE
2A8B ⪍ LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-THAN
→ 22DA ⋚ less-than equal to or greater-than
2A8C ⪎ GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-THAN
→ 22DB ⋛ greater-than equal to or less-than
2A8D ⪏ LESS-THAN ABOVE SIMILAR OR EQUAL
2A8E ⪐ GREATER-THAN ABOVE SIMILAR OR EQUAL
2A8F ⪑ LESS-THAN ABOVE SIMILAR ABOVE GREATER-THAN

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2A90 ⪌ GREATER-THAN ABOVE SIMILAR ABOVE LESS-THAN
2A91 ⪎ LESS-THAN ABOVE GREATER-THAN ABOVE DOUBLE-LINE EQUAL
2A92 ⪏ GREATER-THAN ABOVE LESS-THAN ABOVE DOUBLE-LINE EQUAL
2A93 ⪐ LESS-THAN ABOVE SLANTED EQUAL ABOVE GREATER-THAN ABOVE SLANTED EQUAL
2A94 ⪑ GREATER-THAN ABOVE SLANTED EQUAL ABOVE LESS-THAN ABOVE SLANTED EQUAL
2A95 ⪒ SLANTED EQUAL TO OR LESS-THAN
→ 22DC ⋜ equal to or less-than
2A96 ⪓ SLANTED EQUAL TO OR GREATER-THAN
→ 22DD ⋝ equal to or greater-than
2A97 ⪔ SLANTED EQUAL TO OR LESS-THAN WITH DOT INSIDE
2A98 ⪕ SLANTED EQUAL TO OR GREATER-THAN WITH DOT INSIDE
2A99 ⪖ DOUBLE-LINE EQUAL TO OR LESS-THAN
→ 22DC ⋜ equal to or less-than
2A9A ⪗ DOUBLE-LINE EQUAL TO OR GREATER-THAN
→ 22DD ⋝ equal to or greater-than
2A9B ⪘ DOUBLE-LINE SLANTED EQUAL TO OR LESS-THAN
2A9C ⪙ DOUBLE-LINE SLANTED EQUAL TO OR GREATER-THAN
2A9D ⪚ SIMILAR OR LESS-THAN
~ 2A9D FE00 ⪚ with similar following the slant of the upper leg
2A9E ⪛ SIMILAR OR GREATER-THAN
~ 2A9E FE00 ⪛ with similar following the slant of the upper leg
2A9F ⪜ SIMILAR ABOVE LESS-THAN ABOVE EQUALS SIGN
2AA0 ⪝ SIMILAR ABOVE GREATER-THAN ABOVE EQUALS SIGN
2AA1 ⪞ DOUBLE NESTED LESS-THAN
= absolute continuity
→ 226A ≪ much less-than
2AA2 ⪟ DOUBLE NESTED GREATER-THAN
→ 226B ≫ much greater-than
2AA3 ⪠ DOUBLE NESTED LESS-THAN WITH UNDERBAR
2AA4 ⪡ GREATER-THAN OVERLAPPING LESS-THAN
2AA5 ⪢ GREATER-THAN BESIDE LESS-THAN
2AA6 ⪣ LESS-THAN CLOSED BY CURVE
2AA7 ⪤ GREATER-THAN CLOSED BY CURVE
2AA8 ⪥ LESS-THAN CLOSED BY CURVE ABOVE SLANTED EQUAL
2AA9 ⪦ GREATER-THAN CLOSED BY CURVE ABOVE SLANTED EQUAL
2AAA ⪧ SMALLER THAN
2AAB ⪨ LARGER THAN
2AAC ⪩ SMALLER THAN OR EQUAL TO
~ 2AAC FE00 ⪩ with slanted equal
2AAD ⪪ LARGER THAN OR EQUAL TO
~ 2AAD FE00 ⪪ with slanted equal
2AAE ⪫ EQUALS SIGN WITH BUMPY ABOVE
→ 224F ≏ difference between
2AAF ⪬ PRECEDES ABOVE SINGLE-LINE EQUALS SIGN
→ 227C ≼ precedes or equal to
2AB0 ⪭ SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN
→ 227D ≽ succeeds or equal to
2AB1 ⪮ PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO
2AB2 ⪯̸ SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO
2AB3 ⪰̸ PRECEDES ABOVE EQUALS SIGN
2AB4 ⪱ SUCCEEDS ABOVE EQUALS SIGN
2AB5 ⪲ PRECEDES ABOVE NOT EQUAL TO
2AB6 ⪳ SUCCEEDS ABOVE NOT EQUAL TO
2AB7 ⪴ PRECEDES ABOVE ALMOST EQUAL TO
2AB8 ⪵ SUCCEEDS ABOVE ALMOST EQUAL TO
2AB9 ⪶ PRECEDES ABOVE NOT ALMOST EQUAL TO
2ABA ⪷ SUCCEEDS ABOVE NOT ALMOST EQUAL TO
2ABB ⪸ DOUBLE PRECEDES
2ABC ⪹ DOUBLE SUCCEEDS

Subset and superset relations

2ABD ⪺ SUBSET WITH DOT
2ABE ⪻ SUPERSET WITH DOT
2ABF ⪼ SUBSET WITH PLUS SIGN BELOW
2AC0 ⪽ SUPERSET WITH PLUS SIGN BELOW
2AC1 ⪾ SUBSET WITH MULTIPLICATION SIGN BELOW
2AC2 ⪿ SUPERSET WITH MULTIPLICATION SIGN BELOW
2AC3 ⫀ SUBSET OF OR EQUAL TO WITH DOT ABOVE
2AC4 ⫁ SUPERSET OF OR EQUAL TO WITH DOT ABOVE
2AC5 ⫂ SUBSET OF ABOVE EQUALS SIGN
2AC6 ⫃ SUPERSET OF ABOVE EQUALS SIGN
2AC7 ⫄ SUBSET OF ABOVE TILDE OPERATOR
2AC8 ⫅ SUPERSET OF ABOVE TILDE OPERATOR
2AC9 ⫆ SUBSET OF ABOVE ALMOST EQUAL TO
2ACA ⫇ SUPERSET OF ABOVE ALMOST EQUAL TO
2ACB ⫈ SUBSET OF ABOVE NOT EQUAL TO
~ 2ACB FE00 ⫋ with stroke through bottom members
2ACC ⫉ SUPERSET OF ABOVE NOT EQUAL TO
~ 2ACC FE00 ⫌ with stroke through bottom members
2ACD ⫍ SQUARE LEFT OPEN BOX OPERATOR
2ACE ⫎ SQUARE RIGHT OPEN BOX OPERATOR
2ACF ⫏ CLOSED SUBSET
→ 2282 ⊂ subset of
2AD0 ⫐ CLOSED SUPERSET
→ 2283 ⊃ superset of
2AD1 ⫑ CLOSED SUBSET OR EQUAL TO
2AD2 ⫒ CLOSED SUPERSET OR EQUAL TO
2AD3 ⫓ SUBSET ABOVE SUPERSET
2AD4 ⫔ SUPERSET ABOVE SUBSET
2AD5 ⫕ SUBSET ABOVE SUBSET
2AD6 ⫖ SUPERSET ABOVE SUPERSET
2AD7 ⫗ SUPERSET BESIDE SUBSET
2AD8 ⫘ SUPERSET BESIDE AND JOINED BY DASH WITH SUBSET

Forks

2AD9 ⫙ ELEMENT OF OPENING DOWNWARDS
→ 2208 ∈ element of
→ 27D2 ⋒ element of opening upwards
2ADA ⫚ PITCHFORK WITH TEE TOP
→ 22D4 ⋔ pitchfork
2ADB ⫛ TRANSVERSAL INTERSECTION
→ 22D4 ⋔ pitchfork
2ADC ⫝̸ FORKING
= not independent
- an equational logic symbol, not a computing science symbol
- non-independence (original concept) is related to forking

≡ 2ADD ⫝ 0338 ̸

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2ADD ⫝̸ NONFORKING
= independent
• an equational logic symbol, not a computing science symbol
• independence (original concept) is related to non-forking

Tacks and turnstiles

2ADE ⫞ SHORT LEFT TACK
→ 22A3 ⊣ left tack
2ADF ⫟ SHORT DOWN TACK
→ 22A4 ⊤ down tack
2AE0 ⫠ SHORT UP TACK
→ 22A5 ⊥ up tack
2AE1 ⫡ PERPENDICULAR WITH S
2AE2 ⫢ VERTICAL BAR TRIPLE RIGHT TURNSTILE
= ordinarily satisfies
2AE3 ⫣ DOUBLE VERTICAL BAR LEFT TURNSTILE
→ 22A9 ⊩ forces
2AE4 ⫤ VERTICAL BAR DOUBLE LEFT TURNSTILE
→ 22A8 ⊨ true
2AE5 ⫥ DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE
2AE6 ⫦ LONG DASH FROM LEFT MEMBER OF DOUBLE VERTICAL
→ 22A9 ⊩ forces
2AE7 ⫧ SHORT DOWN TACK WITH OVERBAR
→ 22A4 ⊤ down tack
→ 2351 ⍑ apl functional symbol up tack overbar
2AE8 ⫨ SHORT UP TACK WITH UNDERBAR
→ 22A5 ⊥ up tack
→ 234A ⍊ apl functional symbol down tack underbar
2AE9 ⫩ SHORT UP TACK ABOVE SHORT DOWN TACK
2AEA ⫪ DOUBLE DOWN TACK
2AEB ⫫ DOUBLE UP TACK
= independence
• probability theory
2AEC ⫬ DOUBLE STROKE NOT SIGN
→ 00AC ¬ not sign
2AED ⫭ REVERSED DOUBLE STROKE NOT SIGN
→ 2310 ⌐ reversed not sign

Vertical line operators

2AEE ⫮ DOES NOT DIVIDE WITH REVERSED NEGATION SLASH
→ 2224 ∤ does not divide
2AEF ⫯ VERTICAL LINE WITH CIRCLE ABOVE
2AF0 ⫰ VERTICAL LINE WITH CIRCLE BELOW
2AF1 ⫱ DOWN TACK WITH CIRCLE BELOW
= necessarily satisfies
→ 27DF ⟟ up tack with circle above
2AF2 ⫲ PARALLEL WITH HORIZONTAL STROKE
→ 2226 ∦ not parallel to
→ 27CA ⫽ vertical bar with horizontal stroke
2AF3 ⫳ PARALLEL WITH TILDE OPERATOR
2AF4 ⫴ TRIPLE VERTICAL BAR BINARY RELATION
= interleave
→ 2980 ⦚ triple vertical bar delimiter
2AF5 ⫵ TRIPLE VERTICAL BAR WITH HORIZONTAL STROKE
→ 27CA ⫽ vertical bar with horizontal stroke

Miscellaneous mathematical operator

2AF6 ⫶ TRIPLE COLON OPERATOR
• logic
→ 205D ⁝ tricolon
→ 22EE ⋮ vertical ellipsis

Relations

2AF7 ⫷ TRIPLE NESTED LESS-THAN
→ 22D8 ⋘ very much less-than
2AF8 ⫸ TRIPLE NESTED GREATER-THAN
→ 22D9 ⋙ very much greater-than
2AF9 ⫹ DOUBLE-LINE SLANTED LESS-THAN OR EQUAL TO
→ 2266 ≦ less-than over equal to
2AFA ⫺ DOUBLE-LINE SLANTED GREATER-THAN OR EQUAL TO
→ 2267 ≧ greater-than over equal to
2AFB ⫻ TRIPLE SOLIDUS BINARY RELATION
→ 2AF4 ⫴ triple vertical bar binary relation

Operators

2AFC ⋀ LARGE TRIPLE VERTICAL BAR OPERATOR
• often n-ary
→ 2AF4 ⫴ triple vertical bar binary relation
→ 2980 ⦚ triple vertical bar delimiter
2AFD ⫽ DOUBLE SOLIDUS OPERATOR
→ 2225 ∥ parallel to
2AFE ⫾ WHITE VERTICAL BAR
= Dijkstra choice
2AFF ⫿ N-ARY WHITE VERTICAL BAR
= n-ary Dijkstra choice

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Standardized Variation Sequences

2A3C

⊻ INTERIOR PRODUCT

2A3C

⊻ tall variant with narrow foot

2A3C FE00

2A3D

⊼ RIGHTHAND INTERIOR PRODUCT

2A3D

⊼ tall variant with narrow foot

2A3D FE00

2A9D

≲ SIMILAR OR LESS-THAN

2A9D

≲ with similar following the slant of the upper leg

2A9D FE00

2A9E

≳ SIMILAR OR GREATER-THAN

2A9E

≳ with similar following the slant of the upper leg

2A9E FE00

2AAC

⪯ SMALLER THAN OR EQUAL TO

2AAC

⪯ with slanted equal

2AAC FE00

2AAD

⪰ LARGER THAN OR EQUAL TO

2AAD

⪰ with slanted equal

2AAD FE00

2ACB

⊊ SUBSET OF ABOVE NOT EQUAL TO

2ACB

⊊ with stroke through bottom members

2ACB FE00

2ACC

⊋ SUPERSET OF ABOVE NOT EQUAL TO

2ACC

⊋ with stroke through bottom members

2ACC FE00

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